REMARKS

Claims 1-9, 16-18, 28-31, 35-37 and 39-91 are pending.

The Examiner has withdrawn claims 48-51 from consideration. Applicants request the Examiner to reconsider the withdrawal. Claims 48-51 correspond to originally filed claims 23-27, which were not subject to a restriction requirement at the time of the first office action on the merits on December 17, 2002. The Examiner asserts the following reasons for upholding the restriction of claims 48-51:

> Claims 48-51 are drawn to an invention that is independent or distinct from the invention of claim[s] 1-9, 16-18, 28-31, 35-37, 39-47, and 52-54 because claims 48-51 do not require the copolymer comprising two monomers (i) alkyl acrylate monomer and (ii) ethylenically unsaturated monomer as required by claims 1, 35-37 and 54. Claims 48-51 require acrylate polymer only.

This is clearly incorrect for the following reasons. The mere fact that claims 48-51 may be broader than claims 1, 35-37 and 54 does not make claims 48-51 independent or distinct from claims 1, 35-37 and 54. The Examiner is correct that claim 48 only requires acrylate polymer, but it is clear from the language of claim 48 and claim 50, which depends from claim 48, that the term "acrylate polymer" broadly includes a copolymer comprising two monomers (i) alkyl acrylate monomer and (ii) ethylenically unsaturated monomer. Furthermore, claim 50 does require a copolymer comprising two monomers (i) alkyl acrylate monomer and (ii) ethylenically unsaturated monomer. Accordingly, the Examiner should withdraw the restriction of claims 48-51 and consider them on the merits. The Applicants further note that the Examiner has declined to make this restriction final.

Claims 55-91 have also been withdrawn but are the subject of a co-pending divisional application. For the convenience of the Examiner, the Applicants have now included the text of these claims as an attachment to this reply. These claims were added in Applicants' Reply filed 10/13/05 for the purpose of provoking an interference with Venkatraman et al., U.S.S.N. 10/850,865, entitled "Transdermal Administration of Fentanyl and Analogs Thereof."

Claims 1-9, 16-18, 28-31, 35-57, 39-47, and 54 stand rejected under 35 U.S.C. §103 over WO '229 by itself or in view of US '849. WO '229 relates generally to transdermal drug delivery devices, and specifically illustrates devices for delivering nicotine. The Examiner

concedes that WO '229 fails to "specifically exemplify fentanyl," but argues that because WO '229 and US '849 merely list fentanyl among a laundry list of other drugs, it would have been obvious to substitute fentanyl for the nicotine in WO '229. This is incorrect, fentanyl and nicotine have very different solubility properties. They are not interchangeable from the standpoint of transdermal delivery.

At the outset, Applicants note that neither WO '229 nor US '849 provides a single working example of a transdermal delivery device for delivering fentanyl. The only mention of fentanyl in WO '229 is on page 10 (out of 83 pages) in a paragraph that appears to be an attempt to list almost any and every type of drug. The only mention of fentanyl in US '849 is in claim 10, where it is again listed among a wide variety of disparate drugs for possible transdermal delivery. The mere inclusion of fentanyl in these lists in no way demonstrates the equivalency between nicotine and fentanyl for purposes of transdermal delivery, particularly in the context of a transdermal device having a high loading of fentanyl, as Applicants' claims require. In this regard, Applicants direct the Examiner's attention to information about the comparative solubility of nicotine and fentanyl is disclosed in Naik et al., "Transdermal drug delivery: overcoming the skin's barrier function," PSTT Vol. 3, No. 9 (2000), pp. 318-36 ("Naik"), previously included with the communication filed on 6/14/2006.

Applicants draw the Examiner's attention to Table 1 of Naik. Table 1 compares physicochemical and pharmacokinetic data for a number of transdermal delivery devices, including one for delivering nicotine and another for delivering fentanyl. The results are starkly different. In this regard, compare the aqueous solubility ("S_{aq}"), permeability coefficient ("K_p"), clearance ("Cl"), therapeutic blood level, and mg/day delivered data for the fentanyl and nicotine patches. The data demonstrate that nicotine is significantly more soluble than fentanyl, and thus more easily incorporated in a matrix in relatively high amounts and delivered transdermally than fentanyl. Fentanyl and nicotine, therefore, are entirely different from the standpoint of transdermal delivery. Given the disparities between nicotine and fentanyl, a person of ordinary skill, faced with the problem of designing a transdermal drug delivery device for holding relatively high amounts of fentanyl, would find no guidance from devices designed to deliver

nicotine. It thus would not have been obvious to one having ordinary skill in the art at the time of invention to merely substitute fentanyl for nicotine in the claimed high loading range into the copolymer disclosed by WO '229. Furthermore, one having ordinary skill in the art at the time of invention, and therefore knowing about the solubility of fentanyl verses nicotine, would have expected any attempt to high load the copolymer of WO '229 with fentanyl to yield a mixture of copolymer with undissolved fentanyl, a highly disfavored result that is specifically excluded by the instant claim language. The claimed subject matter, therefore, would not have been obvious in view of WO'229, by itself or in combination with US '849, and the rejection should be withdrawn.

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Respectfully submitted,

Date: 10/12/06

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